

# SYSTDG

## Components and Setup



# Components and Setup

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- Information Management
- Location of SYSTDG Components
- Security Issues and Software Compatibility

# Information Management

- Data
- Sources of Data
- Data Mining
- Database Development





# Data Used to Manage the System

- Water Quality Data
  - Total Dissolved Gas
  - Water Temperature
- Meteorological Data
  - Barometric Pressure
  - Wind Speed
  - Air Temperature
- Flow Data
- Project Operations Data
  - Stage/Storage
  - Spill Magnitude and Pattern
  - Turbine Operations

# Data Sources

- Water Quality Data

- **USACE FTP Site**

- [ftp://137.161.202.92/pub/water\\_quality/](ftp://137.161.202.92/pub/water_quality/)

- Weather Data

- **National Weather Service FTP Site**

- <ftp://205.156.51.200/data/observations/metar/cycles>

- **Bureau of Reclamation (AgriMet) FTP Site**

- [ftp://s5ftp.usbr.gov/pn/agrimet/day\\_wx\\_data/](ftp://s5ftp.usbr.gov/pn/agrimet/day_wx_data/)

- Flow Data

- **USACE Website**

- [ftp://137.161.202.92/pub/water\\_quality/wqreport](ftp://137.161.202.92/pub/water_quality/wqreport) (tributaries)

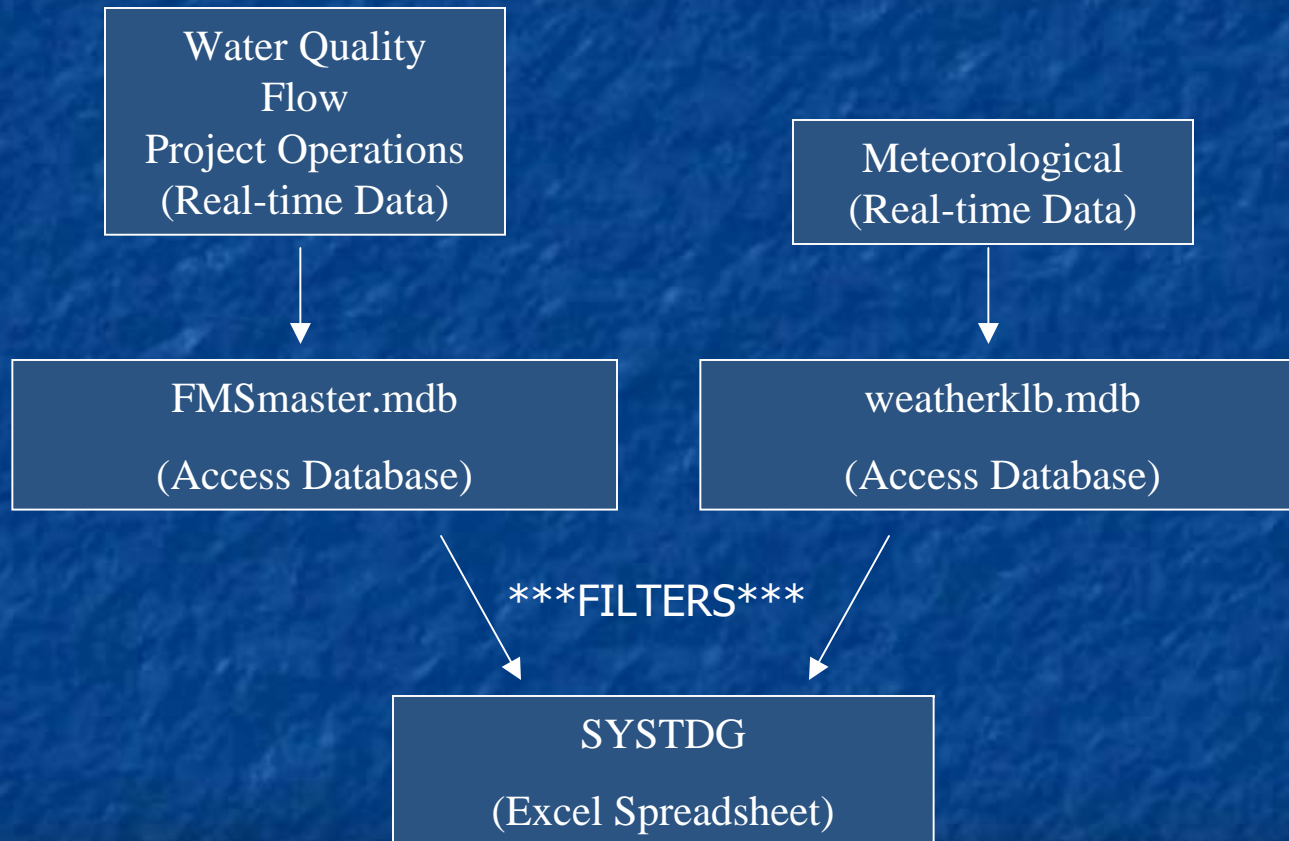
- [ftp://137.161.202.92/pub/project\\_data/hourly/](ftp://137.161.202.92/pub/project_data/hourly/) (mainstems)

- Project Operations Data

- **USACE FTP Site**

- [ftp://137.161.202.92/pub/project\\_data/hourly/](ftp://137.161.202.92/pub/project_data/hourly/)

# Data Mining





# Database Development

- FMSmaster.mdb
  - contains water quality, operations, and flow data
- weatherklb.mdb
  - contains meteorological data
- Quality Control and Assurance
  - Filters (in developmental stages)

# Database Development

## COLUMBIA RIVER

- CWMW, WRNO, CCIW, BON
- TDDO, TDA
- JHAW, JDA
- MCPW, MCQW, MCQO
- PRXW, PRD
- WANW, WAN
- RIGW, RIS
- RRDW, RRH
- WELW, WEL
- CHQW, CHJ
- GCGW, FDRW
- CIBW

## SNAKE/CLEARWATER RIVERS

- IDSW, IHR
- LMNW, LMN
- LGSW, LGS
- LGNW, LWG
- ANAW, LEWI
- PEKI, DWQI



# Database Development

## WEATHER STATIONS

- KTTD – Troutdale, OR, Portland-Troutdale Airport
- BNDW – Bonneville Dam, WA AgriMet Station
- KDLS – The Dalles, OR, Columbia Gorge Regional Airport
- KEAT – Wenatchee, WA, Pangborn Memorial Airport
- CJDW – Chief Joseph Dam, WA, AgriMet Station
- GCDW – Grand Coulee Dam, WA, AgriMet Station
- KPSC – Pasco, WA, Tri-Cities Airport
- LBRW – Lake Bryan-Rice Bar, WA, AgriMet Station
- SILW – Silcott Island, WA, AgriMet Station
- DENI – Dworshak-Dent Acres, ID, AgriMet Station

# The SYSTDG Model

- View Current and Past Conditions
- View Graphical Summaries
- Calculate Summary Statistics
- Run TDG Simulations
  - Hindcast
  - Forecast

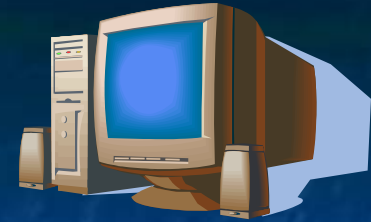




**DATA IS COLLECTED**



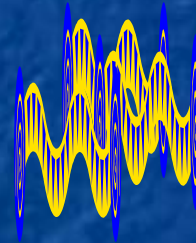
**SENT VIA SATTELITE**



**TO VARIOUS  
FTP SITES**



**DATA IS DOWNLOADED,  
ORGANIZED, AND STORED  
INTO LOCAL DATABASES**



**THEN FILTERED**

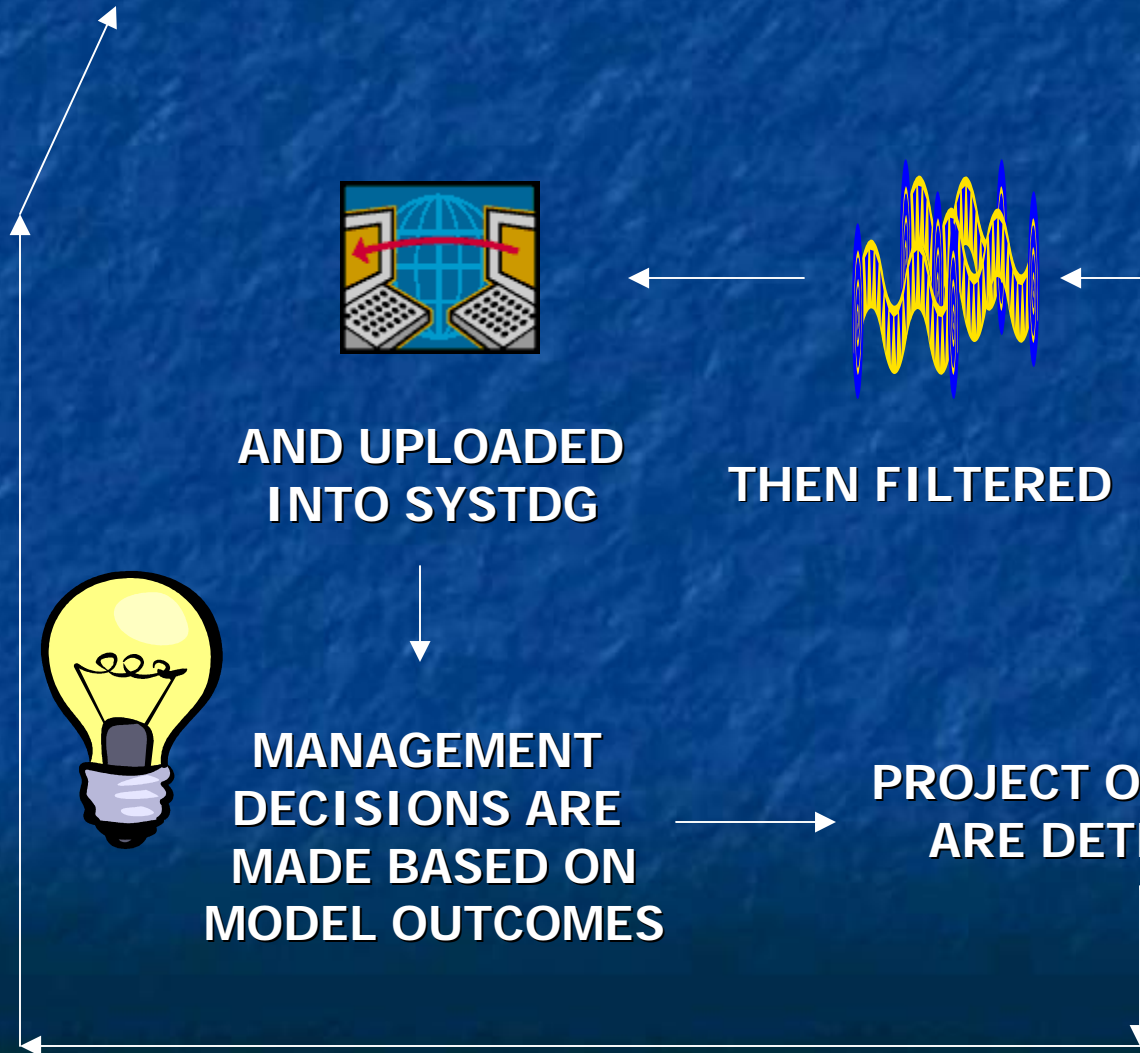


**AND UPLOADED  
INTO SYSTDG**



**MANAGEMENT  
DECISIONS ARE  
MADE BASED ON  
MODEL OUTCOMES**

**PROJECT OPERATIONS  
ARE DETERMINED**





# Location of SYSTDG Components

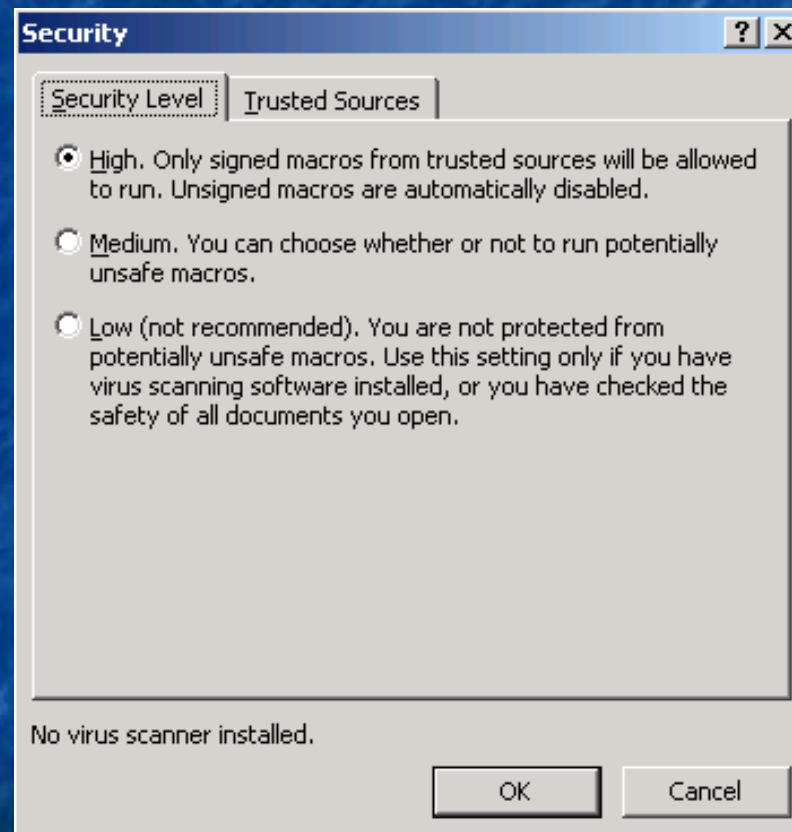
- SYSTDG Workbook
- SYSTDG Primer (Manual)

<http://www.nwd-wc.usace.army.mil/TMT/wqwebpage/mainpage.htm>

# Security Issues and Software Compatibility

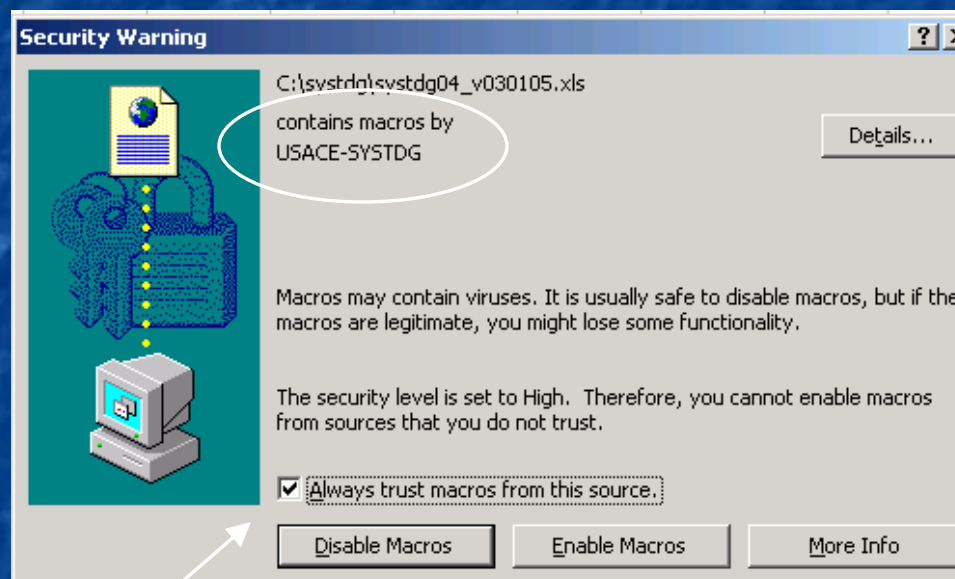
- Microsoft Excel - 1997 release or newer
  - Model Coding (Visual Basic)
  - Macro Security (Digital Signatures)

# Security Issues





# Security Issues



Check this box

? ? ? Questions ? ? ?